

CLAIM AMENDMENTS

1.-19. (Cancelled)

20. (Previously Presented) A method comprising:

using a data bit signal and a first strobe signal to generate at least one pulse train signal, said at least one pulse train signal including a first pulse train signal having a duty cycle that increases with an increase in a degree of skew between the data bit signal and the first strobe signal and a second pulse train signal having a duty cycle that decreases with a decrease in the degree of skew; and

regulating a timing relationship between the data bit signal and the first strobe signal based on the degree of skew indicated by the duty cycles of the first and second pulse train signals.

21. (Previously Presented) The method of claim 20, further comprising:

filtering the first pulse train signal to produce a first filtered signal;

filtering the second pulse train signal to produce a second filtered signal; and

amplifying a difference of the first and second filtered signals to indicate the degree of skew.

22. (Previously Presented) The method of claim 20, further comprising:

storing a calibration value indicative of the degree of skew.

23. (Previously Presented) The method of claim 20, further comprising:

delaying the first strobe signal based on the calibration value.

24. (Previously Presented) The method of claim 20, further comprising:

causing the data bit signal to indicate a predetermined data pattern.

25. (Currently Amended) A data receiver comprising:

buffers, each buffer to latch a different data bit signal;

a first circuit to:

for each data signal, generate at least one associated pulse train signal in response to a strobe signal and the data bit signal, a duty cycle of said at least one associated pulse train signal indicating a degree of skew between the associated data bit signal and the strobe signal;
~~and~~

a second circuit coupled to the first circuit and the buffers to regulate latching of the data bit signals by the buffers based on the indicated degrees of skew; and

multiplexing circuitry to select one of the data bit signals,

wherein the first circuit comprises a third circuit to provide said at least one pulse train signal indicative of the degree of skew between the selected data bit signal and the strobe signal,
and

wherein said at least one pulse train signal comprises:

a first pulse train signal having a duty cycle that increases with an increase in the degree of skew between the selected data bit signal and the strobe signal and a second pulse signal having a duty cycle that decreases with a decrease in the degree of skew between the selected data bit signal and the strobe signal.

26. (Previously Presented) The data receiver of claim 25, wherein the first circuit comprises:

registers, each register being associated with a different one of the data bit signals and indicating the degree of skew between the strobe signal and the associated data bit signal.

27. (Previously Presented) The data receiver of claim 25, wherein the first circuit further comprises:

- a first low pass filter to filter the first pulse train signal to produce a first filtered signal;
- a second low pass filter to filter the second pulse train signal to produce a second filtered signal; and
- an amplifier to produce the indication of the degree of skew between the selected data bit signal and the strobe signal based on the difference of the first and second filtered signals.

28. (Previously Presented) A data receiver comprising:

- buffers, each buffer to latch a different data bit signal;

- a first circuit to:

- for each data signal, generate at least one associated pulse train signal in response to a strobe signal and the data bit signal, a duty cycle of said at least one associated pulse train signal increasing with one of an increase and a decrease in a degree of skew between the associated data bit signal and the strobe signal and decreasing with the other of an increase and a decrease in the degree of skew; and

- a second circuit coupled to the first circuit and the buffers to regulate latching of the data bit signals by the buffers based on the indicated degrees of skew, wherein

- the first circuit comprises registers, each register being associated with a different one of the data bit signals and indicating the degree of skew between the strobe signal and the associated data bit signal.

29.-34. (Cancelled)

35. (Previously Presented) A method comprising:

using a data bit signal and a first strobe signal to generate at least one pulse train signal, a duty cycle of said at least one pulse train signal increasing with one of an increase and a decrease in a degree of skew between the data bit signal and the first strobe signal and decreasing with the other of an increase and a decrease in the degree of skew; and

regulating a timing relationship between the data bit signal and the first strobe signal based on the degree of skew indicated by the duty cycle,

wherein said at least one pulse train signal comprises a first pulse train signal having a duty cycle that increases with an increase in the degree of skew and a second pulse signal having a duty cycle that decreases with a decrease in the degree of skew.

36. (Cancelled)

37. (Previously Presented) The method of claim 35, further comprising:

delaying a second strobe signal based on a calibration value to produce the first strobe signal.

38. (Cancelled)

39. (Previously Presented) The method of claim 35, further comprising:

filtering the first pulse train signal to produce a first filtered signal;

filtering the second pulse train signal to produce a second filtered signal; and

amplifying a difference of the first and second filtered signals to indicate the degree of skew.

40. (Previously Presented) The method of claim 35, wherein the duty cycle of said at least one pulse train signal indicates the degree of skew.

41. (Previously Presented) The method of claim 35, further comprising:
causing the data bit signals to indicate a predetermined data pattern.

42. (Previously Presented) The method of claim 35, wherein said at least one pulse train signal indicates multiple non-zero degrees of skew.

43. (Previously Presented) The data receiver of claim 28, wherein the second circuit comprises:

a delay chain to receive the strobe signal, the delay chain including taps indicating the strobe signal delayed by different delays; and

multiplexing circuitry to selectively couple the taps to the buffers based on the indicated degrees of skew.

44. (Previously Presented) The data receiver of claim 28, further comprising:

multiplexing circuitry to select one of the data bit signals, and

wherein the first circuit comprises a third circuit to, for each of the data signals, provide said at least one pulse train signal indicative of the degree of skew between the selected data bit signal and the strobe signal.

45. (Previously Presented) The data receiver of claim 44, wherein said at least one pulse train signal comprises:

a first pulse train signal having a duty cycle that increases with an increase in the degree of skew between the selected data bit signal and the strobe signal and a second pulse signal having a duty cycle that decreases with a decrease in the degree of skew between the selected data bit signal and the strobe signal.

46. (Previously Presented) The data receiver of claim 45, wherein the first circuit further comprises:

a first low pass filter to filter the first pulse train signal to produce a first filtered signal;

a second low pass filter to filter the second pulse train signal to produce a second filtered signal; and

an amplifier to produce the indication of the degree of skew between the selected data bit signal and the strobe signal based on the difference of the first and second filtered signals.

47. (Previously Presented) The data receiver of claim 28, wherein said at least one associated pulse train signal indicates multiple non-zero degrees of skew.

48. (Previously Presented) A method comprising:

using a data bit signal and a first strobe signal to generate at least one pulse train signal, a duty cycle of said at least one pulse train signal increasing with one of an increase and a decrease in a degree of skew between the data bit signal and the first strobe signal and decreasing with the other of an increase and a decrease in the degree of skew;

regulating a timing relationship between the data bit signal and the first strobe signal based on the degree of skew indicated by the duty cycle; and

storing a calibration value indicative of the degree of skew.

49. (Previously Presented) The method of claim 48, further comprising:

delaying a second strobe signal based on the calibration value to produce the first strobe signal.

50. (Previously Presented) The method of claim 48, wherein said at least one pulse train signal comprises:

a first pulse train signal having a duty cycle that increases with an increase in the degree of skew and a second pulse signal having a duty cycle that decreases with a decrease in the degree of skew.

51. (Previously Presented) The method of claim 50, further comprising:
filtering the first pulse train signal to produce a first filtered signal;
filtering the second pulse train signal to produce a second filtered signal; and
amplifying a difference of the first and second filtered signals to indicate the degree of skew.

52. (New) A skew correction circuit comprising:
a detector to generate at least one pulse train signal in response to a data bit signal and a first strobe signal, a duty cycle of said at least one pulse train signal increasing with one of an increase and a decrease in a degree of skew between the data bit signal and the first strobe signal and decreasing with the other of an increase and a decrease in the degree of skew;
a memory to store an indication of the degree of skew; and
a regulator to regulate a timing relationship between the data bit signal and the first strobe signal based on the indication of the degree of skew stored in the memory.

53. (New) The skew correction circuit of claim 52, wherein the regulator comprises:
a delay chain to delay a second strobe signal based on the indication of the degree of skew stored in the memory.

54. (New) The skew correction circuit of claim 52, wherein said at least one pulse train signal comprises:
a first pulse train signal having a duty cycle that increases with an increase in the degree of skew and a second pulse signal having a duty cycle that decreases with a decrease in the degree of skew.

55. (New) The skew correction circuit of claim 52, wherein the detector comprises a quadrature detector.

56. (New) The skew correction circuit of claim 52, wherein said at least one pulse train signal comprises a first pulse train signal and a second pulse train signal and the detector comprises:

a first filter to filter the first pulse train signal to produce a first filtered signal;

a second filter to filter the second pulse train signal to produce a second filtered signal;

and

an amplifier to amplify a difference of the first and second filter signals to indicate the degree of skew.